PART B - FEE(S) TRANSMITTAL

WE 3	his forth together wit		or <u>Fax</u>	Mail Stop ISSUA Commissioner for P.O. Box 1450 Alexandria, Virg (703) 746-4000	or Patents ginia 22313-1450		
INSTRUCTIONS is for appropriate. All furnice do indicated unless corrected maintenance fee notification	below or directed otherwise	smitting the ISSUE Patent, advance ord in Block 1, by (a)	E FEE and PUBLIC lers and notification specifying a new c	CATION FEE (if requ of maintenance fees v orrespondence address;	ired). Blocks 1 through 4 s vill be mailed to the current and/or (b) indicating a sepa	hould be completed wh correspondence address arate "FEE ADDRESS"	
	E ADDRESS (Note: Legibly mark-up 590 06/15/2004	with any corrections or t	use Block 1)	papers. Each additional	mailing can only be used fi is certificate cannot be used al paper, such as an assignme of mailing or transmission.	or domestic mailings of for any other accompany ent or formal drawing, m	
CARR & FERRE 2200 GENG ROAI PALO ALTO, CA	D			I hereby certify that the States Postal Service vaddressed to the Mai	rtificate of Mailing or Trans his Fee(s) Transmittal is bein with sufficient postage for fir I Stop ISSUE FEE address TO, on the date indicated be	g deposited with the Un st class mail in an envel above, or being facsim	
				Robert MA H	ayden, Reg. 42,6	45 (Depositor's na	
•				Mat	Hord	. (Signat	
			•	August 26,	2004	, (D	
APPLICATION NO.	FILING DATE	F	FIRST NAMED INVEN	ITOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/020,663	12/14/2001		Kyusik Sin		PA 1942US	3837	
TITLE OF INVENTION: M	IAGNETIC TUNNEL JUNC	TION MRAM WIT	TH IMPROVED ST	ABILITY			
			·		,		
APPLN. TYPE	SMALL ENTITY	ISSUE FE	1	UBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE	
nonprovisional	NO NO	\$1330	-	\$0	\$1330	09/15/2004	
EXAM	IINER	ART UNIT		LASS-SUBCLASS			
WILSON, CI	HRISTIAN D	2824		438-003000	:		
2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered patent attorney or agent of up to 2 registered patent attorney or agent of up to 2 registered patent attorney or agent of up to 2 registered patent attorney or agent of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.							
3. ASSIGNEE NAME AND	RESIDENCE DATA TO B	E PRINTED ON T	HE PATENT (print	or type)		******	
PLEASE NOTE: Unless been previously submitte (A) NAME OF ASSIGN	d to the USPIO or is being s	submitted under sep	arate cover. Comple	e patent. Inclusion of a tion of this form is NOT Y and STATE OR CO	ssignee data is only appropri I a substitute for filing an ass UNTRY)	ate when an assignment ignment.	
Western Digital (Fremont), Inc. Fremont, CA							
Please check the appropriate	assignee category or catego	ries (will not be prin	nted on the patent);	🗆 individual 🚨 d	corporation or other private gr	roup entity 🖸 governm	
a. The following fee(s) are	enclosed:		Payment of Fee(s):				
■ Issue Fec ■ A check in the amount							
☐ Publication Fee ☐ Payment by credit card. Form PTO-2038 is attached. ☐ Advance Order - # of Copies (enclose an extra copy of this form).							
Director for Patents is reque	sted to apply the Issue Fee an				ssue fee to the application ide		
Authorized Signature)	// 1-1/-1-	(Date)		T			
Robert D. Hayden	Reg. 42,645	` '	26, 2004	,			
other than the applicant; interest as shown by the re-	d Publication Fee (if require a registered attorney or age cords of the United States Pa	ent; or the assigned tent and Trademark	e or other party in Office.	A1 EC.	2004 MMEKONE1 00000083	·	
This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.							

PTO/SB/21 (02-04) Approved for use through 07/31/2006. OMB 0651-0031 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE are required to respond to a collection of information unless it displays a valid OMB control number Application Number EMADE 10/020.663 TRANSMITTAL Filing Date December 14, 2001 **FORM** First Named Inventor Kyusik Sin Art Unit 2824 (to be used for all correspondence after initial filing) **Examiner Name** Christian D. Wilson Attorney Docket Number **PA1942US** Total Number of Pages in This Submission **ENCLOSURES** (Check all that apply) After Allowance communication 1 Fee Transmittal Form to Technology Center (TC) Drawing(s) Appeal Communication to Board Licensing-related Papers Fee Attached of Appeals and Interferences Appeal Communication to TC Petition (Appeal Notice, Brief, Reply Brief) Amendment/Reply Petition to Convert to a **Proprietary Information** After Final Provisional Application Power of Attorney, Revocation Status Letter Affidavits/declaration(s) Change of Correspondence Address Other Enclosure(s) (please Terminal Disclaimer **Extension of Time Request** Identify below): 1) Confirmation Postcard; Request for Refund **Express Abandonment Request** 2) PTOL-85 (x2) 3) Check for \$1,330 CD, Number of CD(s) Information Disclosure Statement JTotal page number does not include postcard or check. Certified Copy of Priority Document(s) Response to Missing Parts/ Incomplete Application Response to Missing Parts under 37 CFR 1.52 or 1.53 SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT Firm Carr & Ferrell LLP Cust. No. 22830 Individual name Signature Reg. No. 42,645 Date August 26, 2004 CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with

sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

the date shown below.			
Typed or printed name	Robert D. Hayden Reg. No. 42,645		
Signature .	Ald Hay	Date	August 26, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/17 (10-03)
Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERC Under the Paperwork Respection Act of 1956 no persons are required to respond to a collection of information unless it displays a valid OMB control number

FEE	TRA	N.	ŚMI	TI	AL
•	for F	Y	200	4	

Effective 10/01/2003. Patent fees are subject to annual revision.

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 1,330.00

sopona to a soliconori or inte	STITICATOR AND				
Complete if Known					
Application Number	10/020,663				
Filing Date	December 14, 2001				
First Named Inventor	Kyusik Sin				
Examiner Name	Christian D. Wilson				
Art Unit	2824				
Attorney Docket No.	PA1942US				

METHOD OF PAYMENT (check all that apply)	FEE CALCULATION (continued)					
Check ☐ Credit card ☐ Money ☐ Other ☐ None	3. ADDITIONAL FEES					
Deposit Account:			Small		•	
Deposit OC OCOO	Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
Account Number	1051	130	2051	65	Surcharge - late filing fee or oath	
Deposit Account Carr & Ferrell LLP	1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
Name The Director is authorized to: (check all that apply)	1053	130	1053	130	Non-English specification	
Charge fee(s) indicated below Credit any overpayments	1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
Charge any additional fee(s) or any underpayment of fee(s)	1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.	1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
FEE CALCULATION	1251	110	2251	55	Extension for reply within first month	
1. BASIC FILING FEE	1252	420	2252	210	Extension for reply within second month	
Large Entity Small Entity	1253	950	2253	475	Extension for reply within third month	
Fee Fee Fee Fee Fee Pald Fee Pald Code (\$) Code (\$)	1254	1,480	2254	740	Extension for reply within fourth month	
1001 770 2001 385 Utility filing fee	1255	2,010	2255	1,005	Extension for reply within fifth month	
1002 340 2002 170 Design filing fee	1401	330	2401	165	Notice of Appeal	
1003 530 2003 265 Plant filing fee	1402	330	2402	165	Filing a brief in support of an appeal	
1004 770 2004 385 Reissue filing fee	1403	290	2403	145	Request for oral hearing	
1005 160 2005 80 Provisional filing fee	1451	1,510	1451	1,510	Petition to institute a public use proceeding	
SUBTOTAL (1) (\$)		110	2452	55	Petition to revive - unavoidable	
	1453	1,330	2453	665	Petition to revive - unintentional	
2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE Fee from	1501	1,330	2501	6 65	Utility issue fee (or reissue)	1,330
Extra Claims below Fee Paid Total Claims -20** = X =	1502	480	2502		Design issue fee	
Independent 2**	1503	640	2503		Plant issue fee	
Claims -3 -3 - 1 - 1 - 3 - 1 - 1 - 1 - 1 - 1 -	1460	130	1460		Petitions to the Commissioner	
	1807	50	1807		Processing fee under 37 CFR 1.17(q)	
Large Entity Small Entity Fee Fee Fee Fee Fee Description	1806	180	1806		Submission of Information Disclosure Stmt	
Code (\$) Code (\$) 1202 18 2202 9 Claims in excess of 20	8021	40	8021	l 40	Recording each patent assignment per property (times number of properties)	
1202 16 2202 9 Claims in excess of 20 1201 86 2201 43 Independent claims in excess of 3	1809	770	2809		Filing a submission after final rejection (37 CFR 1.129(a))	
1203 290 2203 145 Multiple dependent claim, if not paid	1810	770	2810	385	For each additional invention to be	
1204 86 2204 43 ** Reissue independent claims					examined (37 CFR 1.129(b))	\vdash
over original patent	1801	770	2801		Request for Continued Examination (RCE)	
1205 18 2205 9 ** Reissue claims in excess of 20 and over original patent	1802	900	1802	900	Request for expedited examination of a design application	
SUBTOTAL (2) (\$)	Other fee (specify)					
**or number previously paid, if greater; For Reissues, see above	*Redu	ced by	Basic I	Filing F	ee Paid SUBTOTAL (3) (\$) 1,330	0.00

SUBMITTED BY

(Complete (if epplicable))

Name (Print/Type)

Robert D. Hayden

(Attornev/Agent)

Registration No. (Attornev/Agent)

Date

August 26, 2004

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.